

## **IN THE CLAIMS:**

Claim 1 (currently amended): Workpiece (1) with at least one functional face and a layer system (4) deposited by means of a CVD or PVD process on at least a portion of the functional face (4) as well as a structure pattern, which encompasses at least a portion of the layer system (4) and which is comprised of at least one ~~threedimensional~~ three-dimensional microstructure (5) with structure depth **S**, ~~characterized in that the threedimensional~~ wherein the three-dimensional microstructure (5) extends from the surface of the layer system (4) up into the workpiece, such that it is uncoated in a lower region of the microstructure (5).

Claim 2 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein at least the outermost layer of the layer system (4) comprises at least one carbon-containing slide layer ~~such as a Me/C, MeC/C, SiC/C, DLC, an a-C:H:Si, an a-C:H:Si:Me or an a-C:H/a-Si:O layer, but preferably a WC/C or a DLC layer.~~

Claim 3 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.05 and 0.9, ~~preferably between 0.1 and 0.6.~~

Claim 4 (currently amended): Workpiece (1) with at least one functional face and a layer system (4) deposited by means of a CVD or PVD process on at least a portion of the functional face, as well as a structure pattern which encompasses at least a portion of

the layer system (4) and is comprised of at least one three dimensional microstructure (5) with structure depth **S**, and the layer system comprises at least one carbon-containing slide layer such as ~~SiC/C, an a-C:H:Si, an a-C:H:Si:Me or an a-C:H/a-Si:O layer, but preferably a DLC, a Me/C, a MeC/C, in particular a WC/C layer, characterized in that and wherein~~ the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.05 and 0.9 , ~~preferably between 0.1 and 0.6.~~

Claim 5 (currently amended): Workpiece as claimed in claim 2, ~~characterized in that the~~ wherein the carbon-containing slide layer is at least one of a Me/C, MeC/C or a-C:H:Si:Me slide layer and comprises at least one of the metals Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W or Fe , ~~but preferably W or Cr.~~

Claim 6 (currently amended): Workpiece as claimed in claim 2, ~~characterized in that~~ wherein the carbon-containing layer comprises a metallic adhesion layer and a carbon content increasing from the adhesion layer to the surface.

Claim 7 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein at least the outermost layer of the layer system comprises an MoS<sub>2</sub>, a WS<sub>2</sub>, an MoSe<sub>2</sub> or a WSe<sub>2</sub> slide layer.

Claim 8 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein the layer system comprises at least one hard layer and at least one slide

layer deposited thereon.

Claim 9 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein the layer thickness of the layer system is between 0.5-20  $\mu\text{m}$  ; ~~preferably between 1-10  $\mu\text{m}$ .~~

Claim 10 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein the structure pattern in plan view is comprised of a multiplicity of substantially spot-form cavities, which, in turn, are disposed circularly, elliptically, in the form of lines, in the form of polygons or as hexagonal or cubic spot pattern.

Claim 11 (currently amended): Workpiece as claimed in claim 10, ~~characterized in that~~ wherein the cavities, in turn, in plan view have a circular, elliptical or polygonal shaping.

Claim 12 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein the structure pattern is formed of circular, elliptical, polygonal, straight or wave-form lines.

Claim 13 (currently amended): Workpiece as claimed in claim 1, ~~characterized in that~~ wherein on the portion of the layer system, encompassed by the structure pattern, the degree of areal coverage is between 10-50% ; ~~preferably between 15-35%,~~ of the microstructured surface.

Claim 14 (currently amended): Workpiece as claimed in claim 1, characterized in that wherein the cross section of the cavities (5) is substantially circular (5') ,~~however preferably substantially conical (5'', 5''').~~

Claim 15 (currently amended): Workpiece as claimed in claim 1, characterized in that wherein a tangential angle  $\alpha$  between the surface horizontal and a decreasing structure slope is less than  $15^\circ$  ,~~however preferably less than  $10^\circ$ .~~

Claim 16 (currently amended): Workpiece as claimed in claim 1, characterized in that wherein the structure pattern of the layer system comprises circular structures (5) with a diameter measured on the surface of 5 to 350  $\mu\text{m}$  ,~~however preferably 80 to 250  $\mu\text{m}$ , and has a degree of areal coverage of 10 to 50% ,however preferably between 15 to 40%.~~

Claim 17 (currently amended): Workpiece as claimed in claim 1, characterized in that wherein the workpiece is a structural part with at least one functional face implemented as a slide face ,~~in particular a friction bearing, slide seal, piston ring, bucket tappets, rocker arms or a crankshaft.~~

Claim 18 (currently amended): Workpiece as claimed in claim 1, characterized in that wherein the workpiece is a tool with at least one functional face implemented as a slide face ,~~in particular a cutting tool, with at least one contact face or a forming tool with at least one extrusion face.~~

Claim 19 (currently amended): Method for the production of a workpiece with at least one functional face, at least on a portion of the functional face first a layer system is deposited by means of a CVD or PVD process and subsequently microstructured in one or several structuring steps, characterized in that the structuring steps are selected such that the layer system as well as also the workpiece surface are microstructured.

Claim 20 (currently amended): Method as claimed in claim 19, ~~characterized in that~~ wherein the at least one structuring step is selected such that the ratio of layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.05 and 0.9, ~~preferably between 0.1 and 0.6.~~

Claim 21 (currently amended): Method for the production of a workpiece with at least one functional face and a microstructured layer system (4) deposited thereon by means of a CVD or PVD process, at least on a portion of the functional face first the surface of the workpiece is microstructured through one or several structuring steps and subsequently a layer system is deposited, ~~characterized in that~~ wherein the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is set between 0.05 and 0.9, ~~preferably between 0.1 and 0.6.~~

Claim 22 (currently amended): Method as claimed in claim 19, ~~characterized in that~~ wherein the at least one structuring step is selected such that a degree of areal coverage of 10 to 50% ~~; however preferably between 15 to 40%~~ is set.

Claim 23 (currently amended): Method as claimed in claim 19, ~~characterized in that wherein~~ the at least one structuring step comprises a micromechanical step, ~~but preferably one of working with a laser beam.~~

Claim 24 (currently amended): Method as claimed in claim 19, ~~characterized in that wherein~~ the at least one structuring step comprises plasma etching, chemical etching or electrochemical etching.

Claim 25 (currently amended): Method as claimed in claim 19, ~~characterized in that wherein~~ the at least one structuring step comprises the application of an etch-resistant lacquer layer with a ~~two-dimensional~~ two-dimensional structure pattern on the surface of the layer system or of the workpiece.

Claim 26 (currently amended): Method as claimed in claim 19, ~~characterized in that wherein~~ the deposition of the layer system takes place by means of a ~~PVD, a CVD process, but preferably by means of~~ a combined PVD/CVD process.

Claim 27 (currently amended): Method as claimed in claim 19, ~~characterized in that wherein~~ a layer system with at least one carbon-containing slide layer is deposited, ~~such as an SiC/C, an a-C:H:Si, an a-C:H:Si:Me or an a-C:H/a-Si:O layer, but preferably a DLC, a Me/C, a MeC/C, in particular a WC/C layer.~~

Claim 28 (currently amended): Method as claimed in claim 19, ~~characterized in~~

that wherein the layer thickness of the layer system is set between 0.5-20  $\mu\text{m}$ , preferably between 1-10  $\mu\text{m}$ .

Claim 29 (new): Workpiece as claimed in claim 2, wherein the at least one carbon-containing slide layer is selected from the group consisting of a layer of: Me/C, MeC/C, SiC/C, DLC, a-C:H:Si, a-C:H:Si:Me, a-C:H/a-Si:O layer, WC/C, and DLC.

Claim 30 (new): Workpiece as claimed in claim 3, wherein the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.1 and 0.6.

Claim 31 (new): Workpiece as claimed in claim 4, wherein the at least one carbon-containing slide layer is selected from the group consisting of a layer of: SiC/C, a-C:H:Si, a-C:H:Si:Me, an a-C:H/a-Si:O, DLC, Me/C, MeC/C, and WC/C; the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.1 and 0.6.

Claim 32 (new): Workpiece as claimed in claim 5, wherein the carbon-containing slide layer comprises at least one of the metals W or Cr.

Claim 33 (new): Workpiece as claimed in claim 9, wherein the layer thickness of the layer system is between between 1-10  $\mu\text{m}$ .

Claim 34 (new): Workpiece as claimed in claim 13, wherein on the portion of the

layer system, encompassed by the structure pattern, the degree of areal coverage is between 15-35%, of the microstructured surface.

Claim 35 (new): Workpiece as claimed in claim 1, wherein the cross section of the cavities is substantially conical (5", 5''').

Claim 36 (new): Workpiece as claimed in claim 1, wherein a tangential angle  $\alpha$  between the surface horizontal and a decreasing structure slope is less than  $10^\circ$ .

Claim 37 (new): Workpiece as claimed in claim 1, wherein the structure pattern of the layer system comprises circular structures (5) with a diameter measured on the surface of 80 to 250  $\mu\text{m}$ , and has a degree of areal coverage of 15 to 40%.

Claim 38 (new): Workpiece as claimed in claim 1, wherein the workpiece is a structural part with at least one functional face implemented as a slide face of at least one of a: friction bearing, slide seal, piston ring, bucket tappet, rocker arm, and crankshaft.

Claim 39 (new): Workpiece as claimed in claim 1, wherein the workpiece is a tool with at least one functional face implemented as a contact face of a cutting tool.

Claim 40 (new): Workpiece as claimed in claim 1, wherein the workpiece is a tool with at least one functional face implemented as an extrusion face of a forming tool.



Claim 41 (new): Method as claimed in claim 19, wherein the at least one structuring step is selected such that the ratio of layer thickness **d** of the layer system (4) to the structure depth **S** is between 0.1 and 0.6.

Claim 42 (new) Method as claimed in claim 21, wherein the ratio of the layer thickness **d** of the layer system (4) to the structure depth **S** is set between 0.1 and 0.6.

Claim 43 (new): Method as claimed in claim 19, wherein the at least one structuring step is selected such that a degree of areal coverage of between 15 to 40% is set.

Claim 44 (new): Method as claimed in claim 19, wherein the at least one structuring step comprises a micromechanical step including working with a laser beam.

Claim 45 (new): Method as claimed in claim 27, wherein the at least one carbon-containing slide layer deposited is selected from the group consisting of a layer of: SiC/C, a-C:H:Si, a-C:H:Si:Me, a-C:H/a-Si:O, DLC, a Me/C, a MeC/C, and a WC/C layer.

Claim 46 (new): Method as claimed in claim 28, wherein the layer thickness of the layer system is set between between 1-10  $\mu\text{m}$ .